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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/634,918

08/06/2003

Kazuyuki Uenoyama

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05/31/2006

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EXAMINER

MCMAHON, MARGUERITE J

ART UNIT

PAPER NUMBER

3747

DATE MAILED: 05/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/634,918

Applicant(s)

UENOYAMA ET AL.

Examiner

Marguerite J. McMahon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-16, 19 and 28-31 is/are pending in the application.
- 4a) Of the above claim(s) 12-16 and 19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 12-16 and 19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 5/25/05.

Claim Rejections - 35 USC § 112

Claims 28-31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In lines 13-14 of claim 28 "and lateral fo the extended line of the diameter of the bearing part" is unclear. In line 15 of claim 28 "at" should be --above--. Similar problems occur in claim 31.

In the penultimate line of claim 29 "middle portion" is unclear since the branching air passages are connected to the scavenging passages at the top portion of the scavenging passages.

Claim Rejections - 35 USC § 103

Claims 28, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tenney (3,612,014) in view of Doragrip (5,201,288). Tenney shows (see Figure 4) a two-stroke cycle engine, comprising: a cylinder having two scavenging ports 37 and two scavenging passages 30 communicating with the scavenging ports; and a crankcase including front and rear portions 10A, 10B that are separated by a

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plane, which is at a right angle to a crankshaft and contains an axis of the cylinder, wherein the front and rear portions are attached to each other by fasteners 11, wherein a crankcase scavenging passage is formed inside a wall in each of the front and rear crankcase portions symmetrically with respect to said crankcase separating plane, the front and rear portion scavenging passages being formed above the crankshaft bearing part, wherein the scavenging passage has a top opening above a cylinder mounting surface and an outlet at the side of the crankcase with a microscopic gap between the opening and the end surface of the crank webs 15A, wherein each of the front and rear portions includes a scavenging passage which provides fluid communication between the scavenging passage of the cylinder and a crank chamber of the crankcase so as to allow a fuel-air mixture to flow from the crank chamber to the scavenging ports, wherein the cylinder is attached by fasteners to a mounting surface on the crankcase (see column 2, lines 67-69), and wherein the scavenging passages of each of the cylinder and the crankcase are arranged symmetrically along a front to rear plane of the engine. Tenney shows everything except the crankshaft bearing part in each front and rear portion being formed within a diameter of the cylinder. Doragrip teaches that it is old in the art to form the crankshaft bearing parts within a diameter of the cylinder (see Figure 1 on next page).

U.S. Patent

Apr. 13, 1993

Sheet 1 of 2

5,201,288

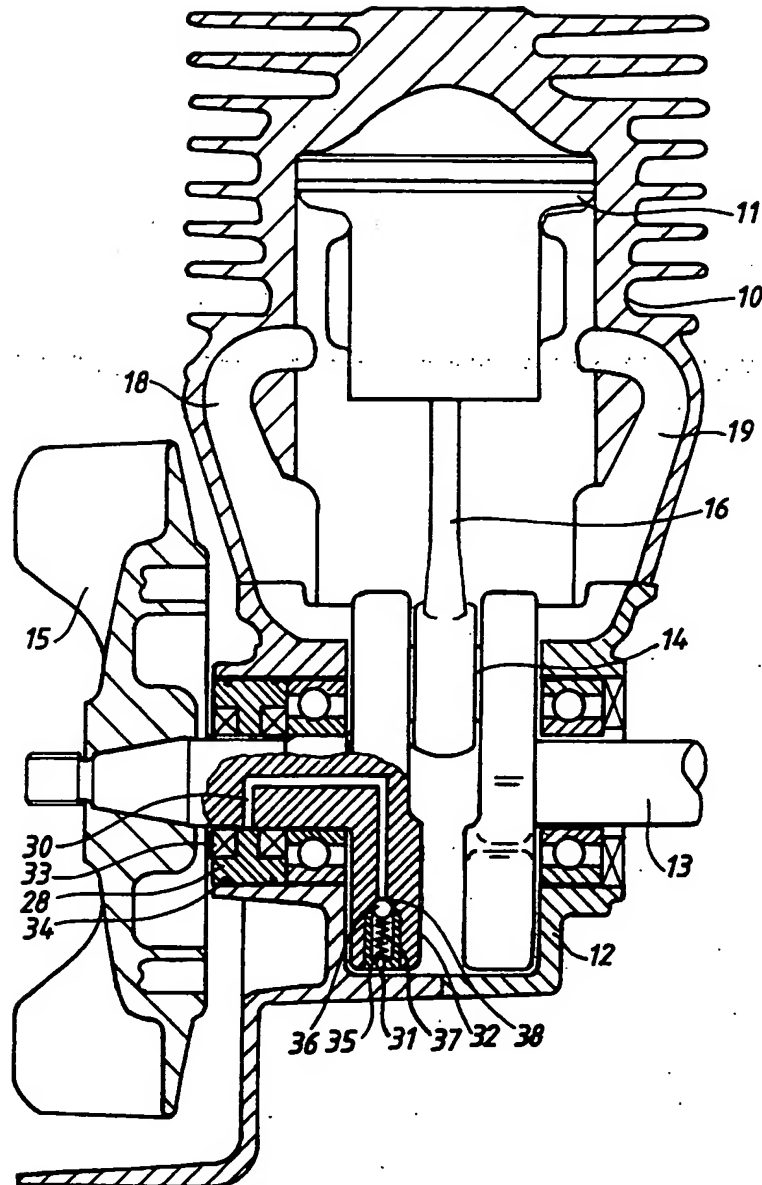


Fig.1

It would have been obvious to one having ordinary skill in the art to modify Tenney by locating the bearings such that they are within the diameter of the cylinder, since this is conventional.

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tenney (3,612,014) in view of Doragrip (5,201,288 as applied to claims 28,30, and 31 above, and further in view of Iwai (4,075,985). Tenney in view of Doragrip show everything except an air supply passage which intersects the plane, wherein a downstream side of the air supply chamber being connected to two branching air passages which are symmetric with respect to said crankcase separating plane and wherein each of said branching air passages is connected to the scavenging passage of the cylinder. Note that the air passage 24 of Tenney intersects the plane (see Figures 2 and 3).

Iwai teaches that it is old in the art to provide an air supply passage 17, 17a which intersects the plane, wherein a downstream side of the air supply chamber is connected to two branching air passages which are symmetric with respect to said crankcase separating plane and wherein each of said branching air passages is connected to the scavenging passage of the cylinder. It would have been obvious to one having ordinary skill in the art to modify Tenney in view of Doragrip by providing an air supply chamber being connected to two branching air passages which are symmetric with respect to said crankcase separating plane and wherein each of said branching air passages is connected to the scavenging passage of the cylinder, in order to provide an effective swirl to the intake and scavenging air, thus improving combustion characteristics.

Response to Arguments

Applicant's arguments with respect to claims 28-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the bearings located within the diameter of the cylinder of Ozawa (5,226,399, see Figure 4), Kumagai et al (4,977,875, see Figure 1), and Honsson et al (6,491,006, see Figure 3). Note the air supply passage with branching passages leading to the scavenging passages of Uchinishi (4,178,886), Araki (6,367,432), and Araki (6,450,135).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is

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571-272-4848. The examiner can normally be reached on Monday-Wednesday and Friday, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


MARGUERITE MCMAHON
PRIMARY EXAMINER